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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Teruo Maruyama

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WENDEROTH, LIND & PONACK, L.L.P.

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WASHINGTON, DC 20006-1021

EXAMINER

TRAN, BINH X

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

06/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/776,278	Applicant(s) MARUYAMA ET AL.	
	Examiner Binh X. Tran	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/07/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I (claims 1-20) in the reply filed on 06-03-2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 21-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 06-03-2008.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 20 of claim 1, the phrase “relative moving surfaces” is indefinite for improper use of antecedent basis. The examiner suggests replacing “relatively moving surfaces” to --the opposed relatively moving surfaces--.

In lines 24-25 of claim 1, the phrase “the relatively moving surfaces” is indefinite for improper use of antecedent basis. The examiner suggests replacing “the relatively moving surfaces” to --the opposed relatively moving surfaces--.

Claims 2, 5-20 are indefinite because they directly or indirectly depend on indefinite claim 1.

In line 11 and line 13 of claim 3 (or line 3 and 5 of page 114), the phrase “opposed relatively moving surfaces” (occur twice) is indefinite for improper use of antecedent basis. The examiner suggests replacing “opposed relatively moving surfaces” to --the opposed relatively moving surfaces--.

In line 15 and 17 of claim 3 (or lines 7 and 9 of page 114), the phrase “relatively moving surface” is indefinite. The examiner suggests replacing “relatively moving surfaces” to --the opposed relatively moving surfaces-- in order to provide proper antecedent basis.

In lines 21-22 of claim 3 (or line 13-14 of page 114), the phrase “the relatively moving surfaces” is indefinite. The examiner suggests replacing “the relatively moving surfaces” to --the opposed relatively moving surfaces-- in order to provide proper antecedent basis.

In line 12 and 14 of claim 4 (or line 14 and 16 of page 115) the phrase “relatively moving surfaces” (occurs twice) is indefinite. The examiner suggests replacing

“relatively moving surfaces” to --the opposed relatively moving surfaces-- in order to provide proper antecedent basis.

In line 19-20 of claim 4 (or line 21-22 of page 115) the phrase “the relative moving surfaces” is indefinite. The examiner suggests replacing “the relatively moving surfaces” to --the opposed relatively moving surfaces-- in order to provide proper antecedent basis.

In line 4-5 of claim 9, the phrase “the relatively moving surfaces” is indefinite. The examiner suggests replacing “relatively moving surfaces” to --the opposed relatively moving surfaces-- in order to provide proper antecedent basis.

Claim 13 recites the limitation “the axial drive device” in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation “the independent cell” in line 11. There is insufficient antecedent basis for this limitation in the claim.

In claim 18, the symbol “ h_x ” is indefinite because applicants fail to define what the symbol “ h_x ” is or stand for.

In claim 19, the symbol “ Q_{se} ” is indefinite because applicants fail to define what the symbol “ Q_{se} ” is or stand for.

Allowable Subject Matter

6. Claims 1, 3, 4 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

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7. Claims 2, 5-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Respect to claims 1-2, 5-20, the cited prior arts fails to disclose or suggest if it is define that $V_s = V_1 + V_2$ and that a time constant T and an intermittent interception control parameter II_c are

$$T = \frac{R_s R_n}{R_n + n R_s} \frac{V_s}{K}$$

and

$$II_c = \frac{R_s S_p X_s (1 - e^{-\frac{T_s}{T}})}{2 P_{s0} T_{st}}$$

respectively, then it hold that $II_c > 1$.

Respect to claim 3, the cited prior arts fails to disclose or suggest it is define that $V_s = V_1 + V_2$ and that a time constant T and a continuous interception control parameter CI_c are

$$T = \frac{R_s R_n}{R_n + n R_s} \frac{V_s}{K}$$

and

$$CI_c = \frac{R_s S_p X_{st} (1 - e^{-\frac{T_{st}}{T}})}{P_{s0} T_{st}}$$

respectively, then it hold that $CI_c > 1$.

Respect to claim 4, the cited prior arts fails to disclose or suggest if it is define that $V_s = V_1 + V_2$ and that a time constant T is

$$T = \frac{R_s R_n}{R_n + R_p + n R_s} \frac{V_s}{K}$$

then it holds that $T \leq 30$ msec.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh X. Tran whose telephone number is (571)272-1469. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Binh X Tran
Primary Examiner
Art Unit 1792

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Primary Examiner, Art Unit 1792